Battery testing and benchmarking program recognized as "world-class"

OAAT ACCOMPLISHMENTS

Benchmarking Worldwide Advanced Battery Technologies

Challenge

Remaining informed about worldwide technical progress and new product development is important for any major research initiative. One such initiative, a program to develop advanced batteries for automotive propulsion systems, sponsored by the U.S. Department of Energy (DOE) in cooperation with the United States Advanced Battery Consortium (USABC), needed to develop a process which would allow it to remain informed about worldwide battery developments.

Technology Description

DOE actively seeks advanced automotive battery technology from worldwide developers outside its program. It subjects the batteries to a comprehensive testing and benchmarking program.

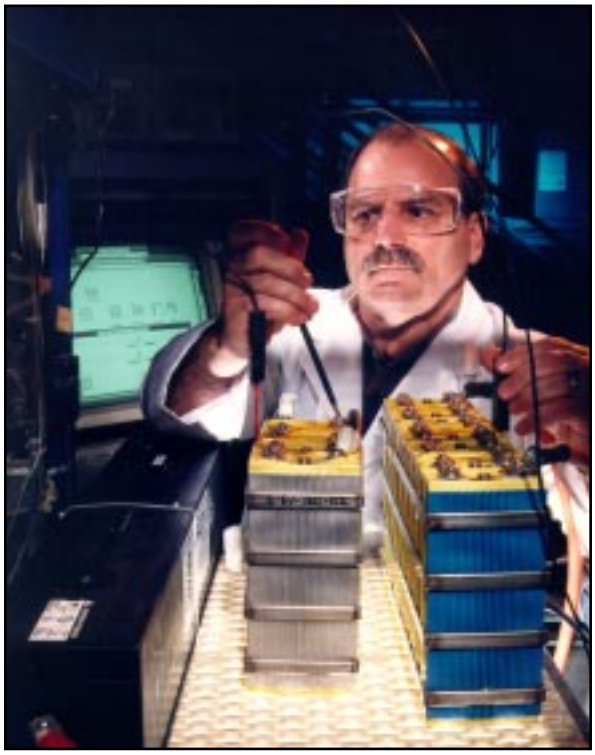
Accomplishments

Standardized test procedures for measuring key characteristics of advanced batteries were developed. First documented in the 1980s, the procedures have been refined and upgraded to reflect the simulated electrical loads placed on batteries in hybrid and electric vehicles.

The procedures have been codified through ongoing review and approval by representatives of the Electrochemical Energy Storage Technical Team of the Partnership for a New Generation of Vehicles and the Technical Advisory Committee of the USABC. The procedures have been adopted as Recommended Practices by the Society of Automotive Engineers.

DOE's program for benchmarking advanced battery technologies has been recognized as "world-class." A trained cadre of test engineers and technicians now exist at DOE's national laboratories to conduct battery evaluations.

The DOE-developed test standards have been recognized as the "de facto" methods for electrical evaluation of advanced batteries being developed for hybrid and electric vehicles.



Batteries are subjected to a comprehensive benchmarking and testing program.

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Benefits

Funding of potentially duplicative effort is avoided through DOE's efforts to maintain a high level of awareness on worldwide battery research and development.

Evaluations of several nickel metal hydride battery modules for electric vehicles and one for hybrid vehicles demonstrate that the USABC-developed nickel metal hydride batteries are competitive with overseas technologies.

Future Activities

Electrical testing of overseas lithium batteries for automotive applications began in FY 1999 and continues in FY 2001.

The European Council on Automotive Research and the Lithium Battery Energy Storage Technology Research Association of Japan are actively exploring future cooperation with the DOE and the USABC on the electrical testing and evaluation of automotive advanced batteries.

Partners in Success

- Argonne National Laboratory
- Idaho National Engineering & Environmental Laboratory
- Sandia National Laboratories
- U.S. Advanced Battery Consortium
- Worldwide automotive companies and advanced battery developers